ALBUQUERQUE PUBLIC SCHOOLS
Technology
Expect Great Things!

Thomas B. Ryan, Ph.D.
Chief Information Officer

Winston Brooks
Superintendent

November 20, 2009

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

RE: Comment Sought on Broadband Needs in Education, including Changes to E-Rate program to Improve Broadband Deployment, DA 09-2376, Released November 3, 2009

Dear Madam Secretary:

Advances in telecommunications and information technology and services have made possible a dramatic transformation in education. Traditionally limited to brick and mortar buildings and classrooms with fixed textual materials, with teachers teaching a classroom full of diverse learners for a fixed period each day, education can now be a 24/7 experience with lessons tailored to individual students, with student progress tracked and adjustments made to meet each learner's needs. Technology is enabling us to ensure academic success for all students.

The Public Notice the Commission released on November 3, 2009, seeking comment on broadband needs in education, including changes to the E-rate program to improve broadband deployment, is a recognition of this possibility and, on behalf of Albuquerque Public Schools, I am pleased to respond. These comments are organized around the questions in the notice.

1. We seek information on the current state of broadband connectivity, device availability, and adoption in U.S. schools and classrooms.

a. We seek statistics on the current state of network connectivity as well as information on technology deployment projects that address connectivity, access, and adoption.

Albuquerque Public Schools (APS) has been aggressively expanding its network connectivity in order to meet demand of our students, teachers and staff for online resources, including the Internet, but also much more – distance learning, online testing, student information, primary intervention programs, etc.

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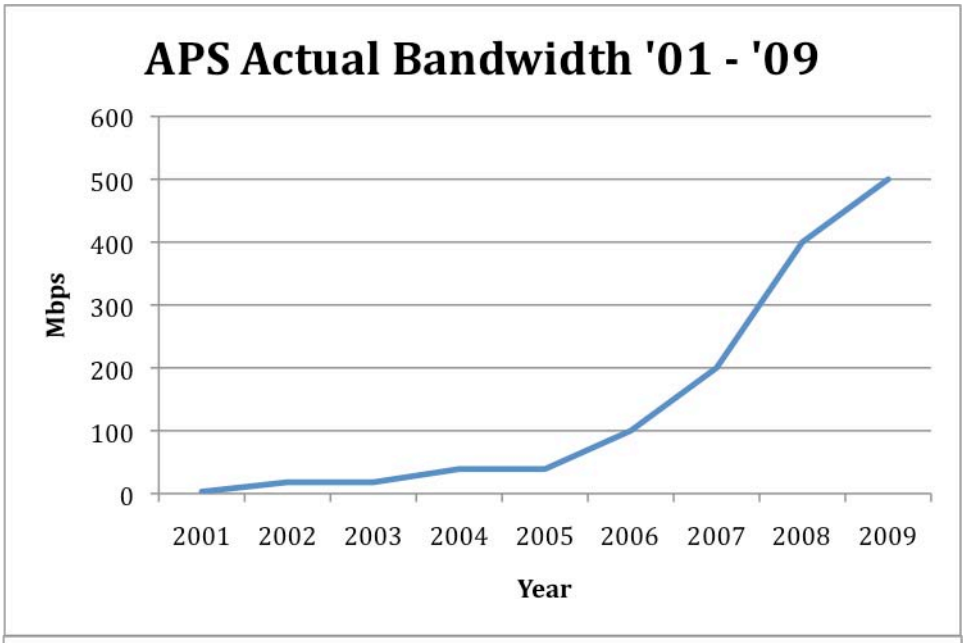

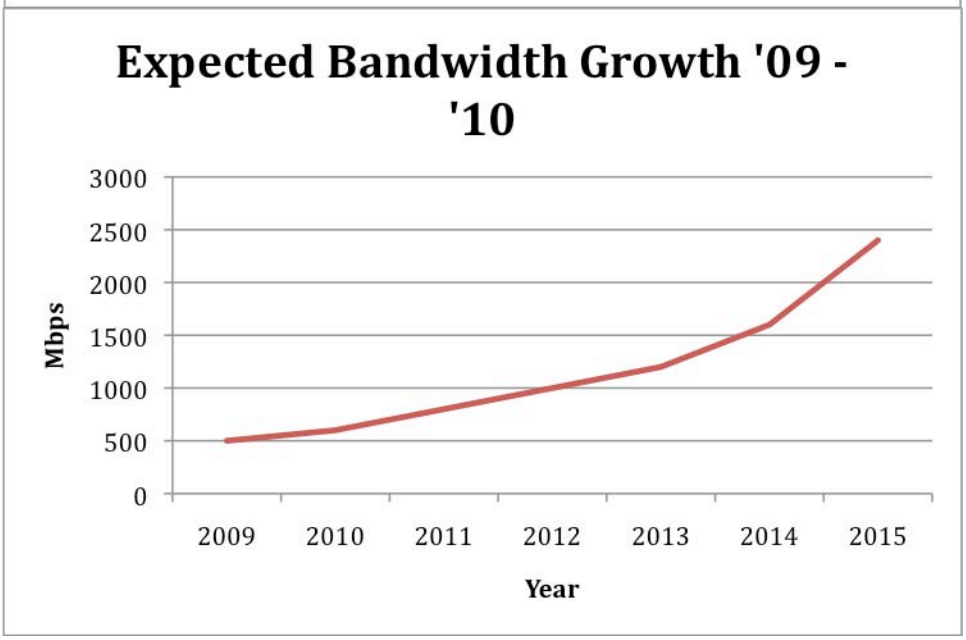

Since 2000 the Albuquerque Public Schools Internet capacity has doubled every 18 months. This trend is not expected to decrease in the foreseeable future, especially with the rise of digital video, online testing, online courses, web conferencing, Voice Over IP, digital safety and surveillance.

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3. We seek comment on schools' and school systems' online and digital content needs and uses, including content for student instruction (e.g., whole or partial textbooks or supplemental resources) as well as professional development content for educators.

a. What sets of instructional and operational problems are schools and school systems attempting to solve with online content solutions?

The Albuquerque Public Schools started using online digital resources to address teacher quality issues. Several years ago we developed an online Teaching English Language Learners course and required all certified school personnel to take the course in order to stay employed by the district. Today all new teachers are required to take this 40-hour course within their first year of teaching. The district offers this course both in a face-to-face (f2f) delivery as well as online. Teacher demand fills four to five online sections each semester and one f2f. In 2007 the district started offering K12 students online course for credit. Online courses and resources for students include providing course materials for f2f instruction and full distance programs.

4. We seek comment on digital literacy programs, standards, and content.

a. Please provide case studies or data relating to the use of digital literacy training to improve access and use of online systems, and the educational, social or economic impact created by such work. Where has such digital literacy work been accomplished in a traditional classroom and where has it been accomplished in an online or blended model for developing these skills? What physical locations (if any) were used (libraries, schools, etc.)?

Digital literacy is an interesting concept when it is discussed as a separate issue from literacy period. From ages 1-3, we learn to read, but from then on we read to learn. When do we move from learning digital literacy to using digital literacy to learn?

5. We seek comment on online learning systems.

a. Please provide examples of schools and school systems currently supporting blended online/offline instructional planning and delivery as well as distance learning via broadband and computer-based learning. What online content systems (e.g., online text books, resource libraries, learning management systems (LMS), distance learning programs, student portfolio systems) have been successfully implemented? How do schools and school systems align online learning systems with other traditional instructional tools (e.g., textbooks, curriculum, scope and sequence)?

We need to redefine our understanding of what is school. Is school a brick and mortar building owned by a community or is it the act of engaging students in high quality learning experiences? Changing our definition of school allows us to think of ways to expand learning opportunities in ways brick and mortar cannot deliver. Through online resources "school" delivers quality teaching and learning and meets the student, parent, and teacher when and where they are ready

to learn. School comes to the student instead of forcing the student to come to school. Access to "school" becomes 24 hours a day and seven days a week.

Online learning should not be thought of as an alternative to offline programs, but instead online learning should be thought of as the mainstream way to deliver instruction, access to resources, parent engagement, and a learner's network. Even students meeting in a traditional f2f environment would be accessing content, assessments, communication, intervention and assistance in a blended environment – in a classroom with a teacher but learning online at their own pace. The learning management system (LMS) would assess student progress, and teachers would use that assessment to identify students who may need face-to-face instructional time. Successful students might come to school less frequently and study online at home allowing teacher more time in face-to-face environments to work with students needing direct intervention.

A traditional brick and mortar view of school limits the number of courses that are offered and when they are offered. Students failing a class are typically forced to remain in the class for the rest of the semester or worse the year. In an expanded understanding of school using a LMS, a student's progress could be monitored and the student easily assigned to the appropriate course without disrupting the rest of the student's course schedule or waiting to remediate in summer school. For students still learning English, the LMS could slow the lesson down, or a foreign-language tutorial could be integrated. Contextual clues could be provided to help foreign-language students with idiosyncratic English phrases that would not make sense in translation. By providing courses online, an AP course, for example, that may not attract enough students at one high school to be cost-effective might become cost-effective when students at another high school can take the course online.

b. How do schools and school systems measure the effectiveness of online vs. blended vs. offline instruction? What are the benchmarks used to compare delivery approaches?

There are significant data that indicate no significant difference in achievement between online and offline instruction. The head-to-head comparisons of online vs. offline courses are important but the comparison frames the discussion in an either/or scenario instead of a both and more understanding. Effectiveness should also be viewed as access to learning and can be measured by the expansion of access to courses and resources and the use of these resources outside of the traditional school day (the amount of time students log in to the system). The challenge is not just use but appropriate use. Doing the same things we have always done but online is not transformational. For over 200 years we have studied and modified how teachers teach, the content for students, and how to address diverse learners but almost always in a brick and mortar classroom. Technology provides us a completely new way to engage teachers, students, and content and how those actors engage each other.

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c. What barriers or issues have prevented implementation of such solutions?

The most significant barrier is teacher skills. Most teachers have been trained to teach in an offline environment. Most professional development has also been delivered in a f2f format. Professional development needs to be delivered through the use of a LMS. Teachers should be taught such subjects as literature and math in an online environment, which models how these resources would be used in the teacher's classrooms. Too often we teach the "tool" independent of how it is used to improve reading and writing. Higher education needs to ensure teachers can teach in an online environment. There should be online teaching certification to motivate teachers to learn the skills.

The LMS is the online classroom. It makes access to the content available to the online learner and it is the vehicle for testing. It should be eligible for E-rate discounts. The content to be supplied through the LMS would not have to be eligible for discount.

Providing discounts for access fee for broadband to the student online devices is important. Netbooks, cell phones, and other devices, owned by the school district, can connect to 3G and 4G wireless networks and via chips in the devices.

6. We seek comment on schools and school system implementation of online/ASP/cloud-based student instructional data reporting systems and their impact on student achievement and school operations.

a. Many school systems have built Adequate Yearly Progress (AYP) systems to fulfill accountability obligations. Have schools and school districts had success building online student data reporting systems that have had a positive impact on student achievement and/or classroom/school operations? How have principals, teachers, students, or families benefitted?

The Albuquerque Public Schools Technology department is working toward providing more resources to staff and teachers via a cloud-computing environment. We believe we can reduce cost and increase access to users and therefore, performance. Certainly, moving the assignments, quiz/tests, attendance, homework, and other management activities out of the traditional face-to-face classroom time would increase the amount of learning time for teachers to introduce new concepts to students. Research shows that the amount of learning time matters.

d. How have student data reporting systems supported school reform movements?

Student data reporting systems need to evolve to student "prescription" systems that analyze the data from various assessments and provide individualized and grouped "prescriptive" activities to the teacher, parent, and student to move achievement forward. This would help make teaching more effective while also reducing the burden on teachers to identify remediation for struggling students.

9. We seek comment on implementation of collaboration and best-practice-sharing online systems. For example, we have been directed to a number of systems, which demonstrate features of collaboration or online community capabilities including: www.curriki.org, www.nylearns.org, www.oercommons.org, www.schooltube.com, www.boepilot.org.

I think it is becoming clear that, to make the most of an LMS, we need some sort of content management solution connecting a variety of educational resources to the LMS so that teachers can pull resources to individualize instruction to students, modify lessons to meet issues of diversity, race, gender, and to connect to the wide variety of student backgrounds and interests that enter each classroom – perhaps an "iTunes" approach to instructional resources for districts and schools. The LMS can allow for individualized instructional modifications to instruction that would be very difficult to accomplish in a f2f classroom environment.

10. We seek comment on opportunities for government to support innovation in the education technology sector, both in terms of driving innovative program and product development, as well as driving adoption.

a. What are the opportunities for government to support technology literacy, access to devices, and adoption through school-based programs for students, their families, and their communities?

b. What are the opportunities for government in setting technology standards?

c. What are the opportunities for government to drive innovation in schools and school systems?

d. What are the opportunities for the government to support research and development to drive innovation to the education technology market?

The Federal government should require cell phone providers to install extra radios (4G/WiMax) on towers that can be managed by a school district so that students can access the network from any location (e.g., home, work). Schools provide devices (e.g., laptops, iPods, netbooks) that are owned by the district that can access the WiMax network through the school-owned device. The network can be managed so that Internet content filtering can be maintained. The cost of the service to the students' devices should be eligible for E-rate. This would give learners access to the Internet, but also to their course material, virtual texts, and other education resources when the student has the time and inclination to study. This would be a superior alternative to broadband connections to buildings since the students' devices would be connected when they are at school or anyplace else where they want to use the devices for learning. The cost would also be less than for broadband circuits.

11. As part of the national broadband plan, we seek comment on how the Commission can modify the Erate program to more effectively meet the needs of applicants as well as whether the program can be a vehicle to stimulate the adoption of broadband throughout communities. For example, in Portugal researchers have found that the usage of broadband in schools creates a "spillover" effect that leads to greater broadband adoption

in the community as students increase their Internet usage at home and transfer their technology skills to other family members.8

> **a. Currently, schools and libraries may obtain discounts on various services that provide highspeed access to the Internet as telecommunications and Internet access (priority 1) services.9 We are aware that applicants may characterize their funding requests according to terminology used on the eligible services list, such as DSL, "internet access via cable modem," ATM, frame relay, T-1, T-3, Ethernet, OC-3, OC-12, ATM, "internet access via fiber optics," etc. We seek information that would enable us to better understand at a more granular level what broadband services eligible applicants are buying today. Overall, what percentage of priority 1 funding is subsidizing broadband services at what speed levels, and what percentage is subsidizing basic voice service (wireline or wireless)? Can we segment the applicant community that receives discounts on higher capacity broadband services based on specific characteristics (such as number of students, rural vs. urban, discount level, etc.)?**

APS led the way in bringing Qwest Metropolitan Optical Ethernet to Albuquerque. Now that it is deployed, the private sector can take advantage of a fiber based high-speed network. There were not enough businesses in the community to bring in this new service. Albuquerque Public Schools because of it size was able to negotiate for this service. An added bonus to the network upgrade was that now all of our poorer communities have high-speed Internet availability because the schools that are located in these communities brought in the necessary infrastructure.

> **b. When applicants develop their technology plans, what factors do they consider in determining their bandwidth needs?**

We track Internet use and demand. APS has had a growth rate of doubling Internet usage every 18 months. This has been consistent over the last 10 years and the growth rate has perhaps increased recently.

> c**. We seek comment on program modifications to maximize the use of broadband connections that are subsidized by the E-rate program. Recognizing that the statute requires that discounts be provided on services used for "educational purposes," we seek information on whether, and if so, how, past interpretations of the "educational purposes" requirement have restricted demand aggregation at the community level to support higher capacity broadband. For example, the program could be modified to allow for use of broadband facilities at schools by the general community, rather than just by school faculty and students.11 We seek specific examples of whether and if so, how, expanding the permissible use of E-rate supported services could confer benefits to a larger community or encourage partnerships with private or public organizations to pool resources to maximize broadband utilization. What practical or operational impact would such a change have?**

"Educational purposes" is currently defined too narrowly and is based on a brick and mortar understanding of school. A broadband view of a school would have to include wherever a student is engaged in learning opportunities offered by the school.

> **d. We seek comment on any legislative changes that would expand the classes of eligible users. For example, the statute currently limits E-rate support to elementary schools and secondary schools, which are defined by each individual state. What would the impact be of modifying the statute to permit colleges, community colleges, pre-kindergarten, Headstart, or other entities to participate in the E-rate program?**

We would be very concerned about expanding the competition for funds without increasing the amount of funding. The program is oversubscribed now. APS has had very little opportunity to get Priority 2 funding over the years.

> **f. Currently, WANs are not eligible for support "to the extent that states, schools, or libraries build or purchase a wide area network to provide telecommunications services."14 Would modifications to this rule regarding WANs, which link schools and libraries within a district or link several school districts together, result in greater broadband deployment?**

We see no justification for that limitation. While telephone companies would no doubt argue that they make contributions to the fund so they should have some assurance of the funds coming back to them, in fact, it is obvious on our phone bills that the phone companies' customers are the real Universal Service Fund contributors, so we should not be limited in our ability to make the most cost-effective use of the funds.

12. We seek comment on how changing the E-rate disbursement and discount methodology might maximize the deployment of broadband.

> **b. Currently, the program's funding varies for applicants based on the number of their students who qualify for free or reduced lunch and based on their geographic location.16 Using this measure, discounts range from 90 percent to 20 percent of the pre-discount price for eligible services, with the poorest schools receiving funding to pay for 90 percent of eligible services. Some rural schools receive additional discounts. The Commission could recalculate these Erate discount levels to factor in not just poverty and whether the school is located in a rural area, but also whether the entity lacks broadband services. In addition, the Commission could change its priority structure to give preference for those schools that have not received funding for internal connections in several years. We seek comment on the extent to which schools that have not received funding for internal connections (Priority 2 funding) need to improve their internal connections in order to most efficiently use their broadband connections now and in the future.**

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Districts need a good local area network to get the most out of high-broadband connectivity, and the rules of priority have resulted in only the poorest districts or the poorest schools in districts getting E-rate support for internal connections in most years of the program's life. The two-in-five rule was intended to address this result, but it seems to have had little effect as Priority 2 funding has continued to be limited to high-discount requests since it was implemented. (An unprecedented rollover amount into FY 2009 looks likely to get P2 funding below 80% for the first time since FY 2003.) APS has sought P2 funding for high-discount schools and had some success at that, but we struggle to put together the resources to keep our less disadvantaged schools properly equipped. We urge the Commission to review the various suggestions it has received to address this phenomenon.

13. We seek comment on the implications of modifying E-rate funding to support additional broadband deployment and how changes to the E-rate program would improve the ability of the program to meet applicant needs for broadband.

i. We seek comment on these suggestions and other ideas to increase the amount of E-rate funds available for broadband technologies, or to more effectively use E-rate funding to improve broadband deployment.

APS is one of many school districts around the country – large and small –that have fallen into an E-rate "blackhole" and have not received E-rate funding commitments for a period of years. As we understand it, there are various reasons why this happens to an E-rate applicant. Perhaps it got involved unknowingly with a service provider or consultant about which the Universal Service Administrative Company (USAC) has or develops concerns. Perhaps it was audited or there was some other investigation, and serious issues were identified that it has taken steps to address, but it can't get back on the good side of USAC. In our case, it was a whistleblower complaint. We took the complaint very seriously, and the then-Superintendent directed APS's Internal Audit Department to conduct an audit targeted at the alleged misdeeds. The audit plan was developed in consultation with the FCC's Office of Inspector General. That audit identified a number of issues, though none criminal matters, and the District took steps to address the issues. Then, in June 2007, USAC's Internal Audit Division began its own lengthy audit of the District focusing on the funding at issue in the whistleblower complaint. Again, issues were identified, though no criminal matters. The District has cooperated with USAC and addressed every question that has been put to it, including those from a Special Compliance Review resulting from the USAC audit.

The District last received a Funding Commitment Decision Letter in the summer of 2006 with commitments for Funding Year 2006 (July 2006 – June 2007). During this three-plus-year period, funding commitments for FY 2005, FY 2007, FY 2008, and FY 2009 have been withheld although the District and its applications for funding have undergone rigorous review by USAC. There are more than $15 million in pending requests.

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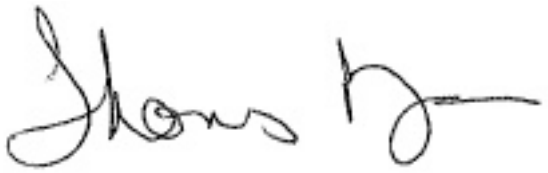
Of course, without E-rate discounts for even our Priority 1 services and especially in these dire financial times, APS has struggled to pay the bills and maintain its broadband connectivity. But the financial strain has had consequences on other parts of the district's budget and ultimately that hurts our students.

We know there are other large districts with even more in funding requests pending over a number of years. In some cases, this treatment is worse than that given to persons convicted of criminal offenses with regard to the program. They are suspended and debarred from the program for, generally, three years. But they are notified of the offense and given an opportunity to show why they should not be suspended or debarred and, if they are debarred, they know when that punishment will end. Applicants in the "blackhole" generally are not informed of the outstanding issues and are not given an opportunity to defend themselves, and they don't know when they will be permitted to participate in the program again.

This practice makes E-rate funds unreliable and is a barrier to the use of E-rate to improve broadband deployment.

The Commission should eliminate this barrier by requiring USAC to develop due process procedures as transparent as they can possibly be that permit applicants to address any concerns that USAC may have about their participation in the program and to take any necessary steps to resume participation in the program.

Respectfully Submitted,



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Albuquerque, New Mexico